

## II. REMARKS

The Examiner is requested to reconsider the application in view of the foregoing amendment and the following remarks. It is believed that no new matter has been added.

In the Office Action at Para. 8, the Examiner has noted several patents and a WO application, and in response, Applicant is providing the cited art with an IDS hereto. The Examiner states "I would like to pull the abandoned US cases to see what prior art was cited by the Examiner." In response, Applicant requests a copy of the prior art which the Examiner pulls from the abandoned cases and asks that any material prior art which the Examiner uncovers be considered and made of record.

In the Office Action at Paras. 9-10, the Examiner has noted that, while use of trademarks is permissible in patent applications, every effort should be made to prevent use of trademarks in any manner which might adversely affect their validity as trademarks. With this in mind, Applicant is amending the specification to add a <sup>TM</sup> symbol adjacent to marks, and submits herewith a Substitute Specification-Clean Version pages 2-90 and a Substitute Specification-Amended Version pages 2-89.

In the Office Action at Paras. 11-12, claims 3, 329, 52, 378, 55, 379, 56, 378, 63, 386, 136, 456, 137, 457, 146, 466, 148, 468, 149, 469, 150, 450, 156, and 476 have been rejected pursuant to 35 U.S.C. Sec. 112, first paragraph. The Examiner contends that these claims fail to comply with the written description requirement. The Examiner states:

The claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time of the application was filed, had possession of the claimed invention. In particular these recitations are not supported by the original disclosure nor are the combinations.

In response, the rejection is not understood, and pursuant to 35 U.S.C. Sec 132 and Rule 104, further information must be provided by the Patent Office, at least sufficient to understand the basis for the Examiner's rejection. The application was filed with code as an appendix,

supplemented with screen shots produced by operation of the code, and further supplemented by explicit teachings in the text. In view of all of the disclosure, one cannot discern from the Office Action any particular reason as to why the Examiner contends that the "claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time of the application was filed." Devoid of anything in particular which forms the basis for the Examiner's contentions, the rejections are improper for not setting out a case of prima facie unpatentability pursuant to Sec. 112, first paragraph, and improper pursuant to Sec. 132 and Rule 104.

In the Office Action at Paras. 13-14, claims 8, 334, 9, 335, 10, 336, 11, 337, 15, 341, 16, 342, 47, 372, 49, 373, 86, 407, 89, 410, 140, and 460 have been rejected pursuant to 35 U.S.C. Sec. 112, second paragraph. The Examiner contends that these claims are indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention, and further, that "If a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of the 35 U.S.C. Sec. 112, second paragraph. The Examiner cites to *Ex Parte Simpson*.

In response, the rejection is respectfully traversed as:

- improper and contrary to the Memorandum from Deputy PTO Commissioner John Love (September 2, 2008, to the technical center directors and examining corps regarding "Indefiniteness rejections under 35 U.S.C. 112, second paragraph" – copy enclosed);
- improper and contrary to *Halliburton Energy Services, Inc. v. M-I LLC*, 514 F.3d 1244, 1255, 85 USPQ2d 1663 (Fed. Cir. 2008) (copy enclosed);
- improper and contrary to *Ex parte John F. Casey et al.* Appeal No. 2007-4317 (BPAI 2008 – copy enclosed); and
- improper and contrary to MPEP Section 608.01(v).

As per the Memorandum from Deputy Director John Love, quoting the Federal Circuit's Decision in *Halliburton*: "The common thread, in all these circumstances is that **claims are found indefinite only where a person of ordinary skill in the art could not determine the metes and bounds of the claims**" (bolding added). The rejections do not even attempt to meet this requirement, set into law by the Federal Circuit subsequent to *Ex Parte Simpson*, and set into PTO policy by Deputy Director John Love.

With the correct legal standard in mind, consider representatively, claims 8 and 334, which each specify: communicating... to a Visa financial institution computer system... The Examiner has not shown in the Office Action why a person of ordinary skill in the art could not determine the metes and bounds of this claim element. The same is true for the other claims rejected pursuant to 35 U.S.C. Sec. 112, second paragraph: 9, 335, 10, 336, 11, 337, 15, 341, 16, 342, 47, 372, 49, 373, 86, 407, 89, 410, 140, and 460.

Note that while *Halliburton* did not explicitly refer to trademarks in claims, *Halliburton* was applied by the Board in *Ex parte John F. Casey et al.* which did involve trademarks.

The Examiner's attention is also drawn to MPEP Section 608.01(v), which in part states:

"[i]f the product to which the trademark refers is set forth in such language that its identity is clear, the examiners are authorized to permit the use of the trademark if it is distinguished from common descriptive nouns by capitalization. If the trademark has a fixed and definite meaning, it constitutes sufficient identification unless some physical or chemical characteristic of the article or material is involved in the invention. In that event, as also in those cases where the trademark has no fixed and definite meaning, identification by scientific or other explanatory language is necessary. *In re Gebauer-Fuelnegg*, 121 F.2d 505, 50 USPQ 125 (CCPA 1941).

The rejection is improper pursuant to MPEP 608.01(v) as none of the required analysis has been provided. The Examiner states "The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular product or material." This statement is in error according to the above-quoted portion of the MPEP and *In re Gebauer-Fuelnegg*.

Further, in these claims the "...mark has a fixed and definite meaning, [and thus] it constitutes sufficient identification" and there is no "physical or chemical characteristic of the article or material".

Claims 8 and 334 refer to communicating... to a Visa financial institution computer system. Where a computer system is communicating to is not a "physical or chemical characteristic of the article or material", and because the "...mark has a fixed and definite meaning, it constitutes sufficient identification", the rejection is improper both for not following the requirements of MPEP 608.01(v) and for not following the requirements of *In re Gebauer-Fuelnegg*.

The Examiner also states, at page 4 of the Office Action, that: "In fact the value of a trademark would be lost to the extent that it became descriptive of a product, rather than used as an identification of a source or origin of a product." Again, communicating... to a Visa financial institution computer system is not using a mark as descriptive of a product, but rather "an identification of a source", which is completely proper.

More so, the rejection assumes the Examiner's apparent view that patent statutes, such as Sec. 112, are in some way limited by trademark law. Pursuant to Sec. 132 and Rule 104 the Patent Office is required to provide information as to how Sec. 112 is in any way subservient to, or limited by, trademark law.

The Examiner also states, at page 4 of the Office Action, that: "Thus, the use of a trademark or trade name in a claim to describe a material or product would not only render a claim indefinite, but would also constitute an improper use of the trademark or trade name." Again, communicating... to a Visa financial institution computer system is not using a trademark or trade name in a claim to describe a material or product, is not an improper use of a trademark. Further, the Examiner's trademark reasoning has nothing to do with use of a "trade name."

In sum, the rejection is improper because it is contrary to the Federal Circuit's holding that **"claims are found indefinite only where a person of ordinary skill in the art could not determine the metes and bounds of the claims"**. This is the standard recognized by the PTO in the Memorandum from Deputy PTO Commissioner John Love (September 2, 2008, to the technical center directors and examining corps regarding "Indefiniteness rejections under 35 U.S.C. 112, second paragraph" – copy enclosed), and the rejection is improper for not following the explicit policy of the PTO. The rejection is yet further improper and contrary to *Halliburton Energy Services, Inc. v. M-I LLC*, 514 F.3d 1244, 1255, 85 USPQ2d 1663 (Fed. Cir. 2008) (copy enclosed); improper and contrary to *Ex parte John F. Casey et al.* Appeal No. 2007-4317 (BPAI 2008 – copy enclosed); and improper and contrary to MPEP Section 608.01(v), as well as *In re Gebauer-Fuelnegg*. The analysis require by law for a proper Sec. 112, second, rejection is lacking as well information required by Sec. 132 and Rule 104.

The same reasoning is applicable to the other rejections of this ilk, namely the rejections with regard to the use of Federal Express, UPS, CyberCash, Visa, Discover, American Express, Blue Mountain, in claims 8, 334, 9, 335, 10, 336, 11, 337, 15, 341, 16, 342, 47, 372, 49, 373, 86, 407, 89, 410, 140, and 460.

With respect to the claims directed to CyberCash, Applicant understands that CyberCash has gone out of existence, and for this reason, the claims 140, 460 referencing CyberCash have been cancelled.

In the Office Action at Para. 5, claims 15, 341, 16, 342, 17, 343, 26, and 252 have been rejected pursuant to 35 U.S.C. Sec. 112, second paragraph. The Examiner contends that these claims are indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention, and further, that "'one digital format' it is not clear what applicant is attempting to encompass with regard to this recitation since the term does not find an explicit definition in the specification...."

In response to the Examiner's contention that the limitation of "one digital format" is indefinite for not making "clear what Applicant is attempting to encompass with regard to this recitation since this term does not find an explicit definition in the specification as filed". Firstly an explicit definition within the specification is usually only reasonably provided when the language is inconsistent with accepted and known meaning in the industry or to one of ordinary skill in the art. Applicant is using the plain English, not defining new terms of art and not providing terms that are inconsistent with known meaning of the limitations recited in the claims and supported by the originally filed specification. The phrase language of 'one digital format' is believed to have been known at the time of the invention and is well understood in the industry, or at least the Examiner has not shown that it was not.

One digital format means exactly what is states, a single digital format. A digital format is not an 'analog' format, digital means that the information is discretized into '1's and '0's, for example. McGraw Hill Dictionary of Scientific and Technical Terms, 2003, defines the phrase "digital format" as the "Use of discrete integral numbers in a given base to represent all the quantities that occur in a problem or calculation." 'One' in the phrase means a single format. One of ordinary skill, at the time of the invention, would have understood 'one digital format' to mean that the claimed invention translates the specified information signals using discrete integral numbers in a base to represent all the quantities that occur during the translation of that information into a single 'digital' format.

Applicant's use is consistent with the known meaning in the industry and clearly explained within the originally filed specification and claims of the instant invention. Contextually, the invention "includes translating at the ordering apparatus to produce the signals representing the packing list and the shipping list signals in 'one digital format'. Clearly to one of ordinary skill, this means that the ordering apparatus translates the packing list and the shipping list signals as one digital format.

A single digital format, in the context of the invention as claimed, clearly means that the information contained in the packing list signal and the information contained in the shipping list signals are translated into a single digital format at the ordering apparatus. The specification clearly teaches translating the "packing list" and the "shipping list" signals into 'one digital format'.

The phrase 'one digital format' was spelled out without ambiguity in the originally filed specification. Exemplary teachings from the applicant's originally filed specification:

"It is yet another object of the present invention to provide an apparatus, method, and article of manufacture involving translating at the ordering apparatus to produce the signals representing the packing list, the shipping list, and the consumer customizable element in one digital format", page 4, line 23, et seq.

"Preferably the method is carried out so that the step of assigning the shipping information signals includes dynamically assigning the shipping information signals through a TCP/IP connection. Also, prior to the step of transmitting, preferably the method includes translating at the ordering apparatus to produce the signals representing the packing list and the shipping list signals in one digital format. With further regard to the method, the steps of transmitting and printing can be carried out with the printing device being a fax machine; and further including the step of connecting the fax machine to a communications system for the receiving of the signals representing the packing list and the shipping information signals." page 13, lines 15 et seq.

"This can be accomplished by further including the step of: prior to the step of transmitting, translating at the ordering apparatus to produce the signals representing the packing list and the shipping list signals in one digital format.", page 15, lines 8 et seq.

"prior to the step of transmitting, translating at the order center apparatus to produce the signals representing the packing list and the shipping list signals in one digital format.", originally filed claim 11, for example.

In sum, the Examiner has not made out a case of prima facie unpatentability pursuant to 35 U.S.C. Sec. 112, second paragraph, and the rejections are therefore improper.

In the Office Action at Para. 16, claims 69, 392, 122, 443, 102, 423, 136, 456, 137, 457, 138, 458, 469, 476, 134, 454, 135, and 455 have been rejected pursuant to 35 U.S.C. Sec. 112, second paragraph. The Examiner contends that these claims are indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention,

and further, that "it is not clear what applicant intends these claims to be further limiting since they do not contain positively recited language. These claims recite 'can', 'cannot', 'optionally', 'may'."

In response, the rejection is respectfully traversed. The Examiner has not made out a case of prima facie unpatentability pursuant to 35 U.S.C. Sec. 112, second paragraph, and the rejection is improper pursuant to Sec. 132 and Rule 104. In particular, the Federal Circuit held that **"claims are found indefinite only where a person of ordinary skill in the art could not determine the metes and bounds of the claims"** and the rejection provides no information as to what **a person of ordinary skill in the art** could not determine. The rejection is therefore improper: the use of the Examiner-cited words have not been shown to be in any way prohibited by Sec. 112. However, Applicant as amended these claims to advance prosecution.

In the Office Action at Para. 17, claims 27, 353, 28, and 354 have been rejected pursuant to 35 U.S.C. Sec. 112, second paragraph. The Examiner contends that these claims are indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention, and further, that "it is not clear how the 'electronic communication comprises a format corresponding to a template'."

In response, the rejection is respectfully traversed. The Examiner has not made out a case of prima facie unpatentability pursuant to 35 U.S.C. Sec. 112, second paragraph, and the rejection is improper pursuant to Sec. 132 and Rule 104. In particular, the Federal Circuit held that **"claims are found indefinite only where a person of ordinary skill in the art could not determine the metes and bounds of the claims"** and the rejection provides no information as to what **a person of ordinary skill in the art** could not determine. However, Applicant as amended these claims to advance prosecution.

In the Office Action, at Paras. 18-20, claim 482 has been rejected pursuant to 35 U.S.C. Sec. 102. The Examiner contends that this claim is anticipated by FlowerNet.pdf.



In response, the rejection is respectfully traversed as improper for failing to make out a prima facie case of anticipation. However, Applicant as amended these claims to advance prosecution.

In the Office Action, at Paras. 20-22, claims 1-2, 327-328 have been rejected pursuant to 35 U.S.C. Sec. 103. The Examiner contends that these claims are obvious over U.S. Patent No. 5,710,887 (Chelliah) in view of U.S. Patent No. 5,315,508 (Baine) as evidenced by U.S. Patent No. 3,870,867 (Hamisch).

Claims 3 and 329 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 4-11 and 330-337 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 12-13 and 338-339 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Fisher et al. (US 6047264).

Claims 14 and 340 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 15-19 and 341-342, 345-345 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claim 20 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Fisher et al. (US 6047264).

Claims 21 and 347 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 22 and 348 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Fisher et al. (US 6047264).

Claims 23 and 349 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352).

Claims 24 and 350 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 25-29 and 351-355 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claim 30 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Fisher et al. (US 6047264).

Claims 31-33 and 356-358 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 34 and 359 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 35-36 and 360-361 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 37-38 and 362-363 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Tackbary et al. (US 5555496).

Claims 39-40 and 364-365 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352).

Claims 41-42 and 366-367 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 43 and 368 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 44-45 and 369-370 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 46 and 371 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352).

Claims 47 and 372 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above in view of Fisher et al. (US 6047264) further in view of Franklin et al. (US 6125352).

Claims 49 and 373 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352).

Claims 50 and 374 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352) further in view of Slotznick (US 5983200).

Claims 51 and 375 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Tackbary et al. (US 5555496).

Claims 52 and 376 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 53 and 377 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352).

Claims 54 and 378 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf further in view of Blonder et al. (US 5708422) and further in view of Blake (News/Retrieval nears its Web debut).

Claims 55-56 and 379-380 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf further in view of Blake (News/Retrieval nears its Web debut).

Claims 57-62 and 381-385 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 63 and 386 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 64 and 387 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch,

Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352).

Claims 65-67 and 388-390 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotnick (US 5983200).

Claims 68 and 391 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 69 and 392 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above, further in view of Blinn et al. (US 6058373).

Claims 70-74 and 393-397 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotnick (US 5983200).

Claims 75 and 398 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 76 and 399 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FedEx.pdf further in view of NPL\_FlowerNet.pdf.

Claims 77-79 and 400-402 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 80 and 403 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Tackbary et al. (US 5555496).

Claims 81-82 and 404-405 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 83 and 406 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_OmahaSteaks.pdf.

Claims 86 and 407 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 87-89 and 408-410 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 90 and 411 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 91-92 and 412-413 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352).

Claims 93-96 and 414-417 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 97 and 418 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352).

Claims 98 and 419 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 99 and 420 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 100 and 421 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above, further in view of Blinn et al. (US 6058373).

Claims 101 and 422 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.



Claims 102 and 423 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 103 and 424 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Fisher et al. (US 6047264).

Claims 104-105 and 425-426 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Tackbary et al. (US 5555496).

Claims 106 and 427 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 107-108 and 428-429 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 109-117 and 430-438 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 118 and 439 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by

Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Tackbary et al. (US 5555496).

Claims 119-120 and 440-441 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 121 and 442 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 122 and 443 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above, further in view of Blinn et al. (US 6058373).

Claims 123-126 and 444-446 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 127 and 447 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf further in view of Kiley1 (Building your electronic list).

Claims 128 and 448 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of

NPL\_FlowerNet.pdf further in view of Kiley1 (Building your electronic list) further in view of Kiley2 (Database drive holiday promos).

Claims 129 and 449 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf further in view of Kiley1 (Building your electronic list).

Claims 130-132 and 450-452 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 133-135 and 453-455 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_OmahaSteaks.pdf.

Claims 136 and 456 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 137-138 and 457-458 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Franklin et al. (US 6125352).

Claims 139-141 and 459-461 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 142-143 and 462-463 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claims 144-147 and 464-467 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of NPL\_FlowerNet.pdf.

Claims 148-151 and 468-471 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Bezos et al. (US 6029141).

Claims 152-153 and 472-473 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Tackbary et al. (US 5555496).

Claims 154 and 474 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 155-156 and 475-478 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 1 and 327 above further in view of Slotznick (US 5983200).

Claim 479 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claims 327 above further in view of Fisher et al. (US 6047264).

Claims 480-481, 483 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867).

Claims 484-485 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) as applied to claim 327 above further in view of Slotznick (US 5983200).

Claims 486-491 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) further in view of NPL\_FlowerNet.pdf.

Claim 492 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) further in view of NPL\_FlowerNet.pdf as applied to claim 486 above further in view of Wilz, Sr. et al. (US 5992752).

Claim 493 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) further in view of NPL\_FlowerNet.pdf further in view of Hamisch, Sr. (US 3870867).

Claims 494-495 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) further in view of NPL\_FlowerNet.pdf further in view of Aragon et al. (US 5859656).

Claims 496-497 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) further in view of NPL\_FlowerNet.pdf.

Claims 498 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) further in view of NPL\_FlowerNet.pdf further in view of Tackbary et al. (US 5555496).

Claims 499 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) further in view of NPL\_FlowerNet.pdf further in view of Slotznick (US 5983200).

Claims 500-502 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Chelliah et al. (US 5710887) in view of Bain et al. (US 5315508) and as evidenced by Hamisch, Sr. (US 3870867) further in view of NPL\_FlowerNet.pdf.

In response, each and every rejection is respectfully traversed as improper for failing to make out a prima facie case of prima facie obviousness. Numerous claim elements have not been shown, and the reason to combine is improper. Indeed, the rejections are hindsight reconstructions of Applicant's claims from disparate pieces, with gaps therebetween.

First, the Examiner states that "Bain et al., as evidenced by Hamisch Sr. teach processing the order and waybill data with the computer system..." at pages 6-7 of the Office Action. The contention is respectfully traversed not only because Bain et al., as evidenced by Hamisch Sr. are each referring to a different computer system than that of Chelliah, but also because neither Bain et al. nor Hamisch Sr. even mention a waybill, let alone processing of one or data corresponding thereto, as claimed, or at least the Examiner has not shown so.

It is noted for the Examiner that a sea waybill is "a contract for the shipment of goods (including loading and delivery by the carrier) by which the carrier undertakes to deliver the goods

to the consignee named in the document." *Delphi-Delco Electronics Systems v. M/V NEDLLOYD EUROPA*, 324 F. Supp. 2d. 403, 425 n. 12 (S.D.N.Y. 2004) (citing Thomas J. Schoenbaum, Admiralty and Mar. Law § 10-11, 63 (2d ed. 1994)). Unlike a traditional bill of lading, a sea waybill "is not a document of title; it functions merely as a non-negotiable receipt that may also serve as the contract of carriage." 324 F. Supp. 2d. at 424-425 (citing Schoenbaum, at 63). Unlike traditional bills of lading, sea waybills are often issued as a short form or blank back document and "provide significant advantages to the shipper and the carrier in terms of efficiency and speed because, in contrast to bills of lading, the original waybill does not need to be physically transported to its destination in order for the consignee to claim the shipment." *Id.* at 425 (citing Schoenbaum, at 63 n. 25).

As a non-negotiable bill of lading, the sea waybill is subject to the Federal Bills of Lading Act (49 U.S.C. §§ 80101-80116) and the Harter Act (46 U.S.C. app. §§ 190-196) under U.S. law. The sea waybill would also be subject to the Carriage of Goods by Sea Act ("COGSA") (46 U.S.C. app. §§ 1300-1315), but does not automatically apply by its terms because COGSA is limited only to documents of title. *See* 46 U.S.C. § 1301(b). COGSA can apply, however, by agreement of the parties. The case cited above, *Delphi-Delco*, addressed precisely such an issue. *See Delphi-Delco*, 324 F. Supp. 2d. 403, at 424 (reiterating that "at a bare minimum, a bill of lading must explicitly incorporate COGSA's provisions or refer in some way to the \$500 per package limitation in order to constitute prima facie evidence of fair opportunity.") (citing *Royal Ins. Co. v. M.V. ACX RUBY*, No. 97 Civ. 3710 (MBM), 1998 WL 524899 at \*3 (S.D.N.Y. Aug. 21, 1998).

Correspondingly, an air waybill is "[a] shipping document used for the transportation of air freight. It includes conditions, limitations of liability, shipping instructions, description of commodity, and applicable transportation charges. It is generally similar to a straight non-negotiable bill of lading and is used for similar purposes." 15 C.F.R. § 30.1(c); *see also* 73 Fed.

Reg. 31,555 (June 2, 2008) (to be codified at 15 CFR pt. 30.1). Therefore, like the sea waybill, "its terms dictate that the goods are consigned to a named person and are not to be delivered to bearer or to the order of a named person." *American Banana Co., Inc. v. Venezolana Internacional de Aviacion S.A. (VIASA)*, 67 A.D.2d 613, 616, 411 N.Y.S.2d 889, 892 (1979). Simply stated, "[a]n air waybill is a written document describing the shipping arrangement between the air carrier and the shipper." *Brink's Ltd. v. South African Airways*, 93 F.3d 1022, 1025 n. 1 (2d Cir. 1996); *see also Avero v. Belgium Ins. v. American Airlines, Inc.*, 423 F.3d 73, 75 n. 1 (2d Cir. 2005)

Once more, as a non-negotiable bill of lading, the air waybill is subject to the Federal Bills of Lading Act (49 U.S.C. §§ 80101-80116) under U.S. law. Additionally, although the carriage of goods by air is covered by a wide array of international conventions, the most often cited is the 1929 Convention for the Unification for Certain Rules Relating to International Carriage by Air ("Warsaw Convention"). The Warsaw Convention reiterates that air waybills constitute a receipt for the goods and are evidence of a contract of carriage. *See* Warsaw Convention Art. 11 (stating "[t]he air consignment note is prima facie evidence of the conclusion of the contract, of receipt of the goods and the conditions of carriage."). However, it should be noted that the Warsaw Convention, as well as its subsequent Protocols, do not apply simply by operation of law, but rather, do so by agreement of contracting parties. *See B.R.I. Coverage Corp. v. Air Canada*, 725 F. Supp. 133 (E.D.N.Y. 1989).

In sum, like a sea waybill, an air waybill creates a contract between the shipper and the air carrier. Specifically, in *Ing v. American Airlines*, 2007 WL 420249 at \*4 (N.D. Cal. 2007), the court made clear that "[a]n air waybill forms the basic contract between the shipper and the air carrier. *Southeastern Pac. Trans. Co. v. Comm'l. Metals Co.*, 456 U.S. 336, 342-3, 102 S.Ct. 1815, 72 L.Ed.2d 114 (1982)." And in *Gunby v. Pilot Freight Carriers, Inc.*, the court cited to several secondary sources when discussing who prepares a waybill. Specifically, the court



stated "[a] waybill is 'a document prepared by the carrier of a shipment of goods that contains details of the shipment, route and charges.'" *Gunby v. Pilot Freight Carriers, Inc.*, 82 N.C.App. 427, 429, 346 S.E.2d 188, 190 (N.C. App. 1986) (citing *Webster's New Collegiate Dictionary*, 1334 (9th ed. 1985); accord, *Black's Law Dictionary*, 1429 (rev. 5th ed. 1979)). Thus, the carrier prepares the waybill for both sea and air shipments.

Returning to the particulars the rejections, all claims require a waybill. Neither Bain et al. nor Hamisch Sr. even mention a waybill, let alone processing of it, in connection with the claims each as a whole, or at least the Examiner has not shown so. There being at least one claim element not shown in the cited art, all the rejections are improper, and further because the rejections of the dependent claims all build upon the improper rejection of the independent claims, all rejections are improper for not making out a case of prima facie obviousness.

Another gap in the cited art rejections has to do with the digital network. In rejecting claims 1 and 372, for example, the Examiner relies on a mention of "FedEx PowerShip" in Chelliah. Nowhere is there evidence that FedEx PowerShip operated on a digital network as opposed to a telephone analog network, or at least the Examiner has not shown so. More so, claim 1 makes several requirements regarding the digital network, i.e., receiving an order.. via a digital network , receiving waybill data from a computer of a shipper via the digital network, output to the digital network. Because FedEx PowerShip has not been shown to be the same digital network, i.e., FedEx PowerShip may or may not have been via a telephone analog network, the Examiner has not made out a case of prima facie obviousness.

Nor is there any showing, e.g., as to claims 1 and 372 and their dependents, of an electronic communication which is output to the digital network and which corresponds to one sheet comprising a waybill and a specification of the product. Again, there are numerous gaps in the contended rejections based on obviousness, compounding into the dependent claims,

such that the Examiner has not made out a case of prima facie obviousness and the rejections are all improper.

Analogously, the rejections of claims 481, 482, 483, and 486 and their dependents have not been shown to be prima facie obvious, as per waybill, digital network and sheet claim elements not being shown in the cited art.

Applicant adds that no proper reason has been provided to combine or modify the cited art to reach the claimed invention at least because there are claim elements not shown in the cited art.

**Applicant requests an interview prior to the next Office Action.**

With respect to the present application, the Applicant hereby rescinds any disclaimer of claim scope made in the parent application or any predecessor or related application. The Examiner is advised that any previous disclaimer, if any, and the prior art that it was made to avoid, may need to be revisited. Nor should a disclaimer, if any, in the present application be read back into any predecessor or related application.

III. CONCLUSION

**APPLICANT CLAIMS LARGE ENTITY STATUS.** The Commissioner is hereby authorized to charge any fees associated with the above-identified patent application or credit any overcharges to Deposit Account No. 50-0235, and if any extension of time is needed to reply to said office action, this shall be deemed a petition therefore.

Please direct all correspondence to the undersigned at the address given below.

Respectfully submitted,



Date: November 15, 2010

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MEMORANDUM

Date: September 2, 2008

To: Technology Center Directors  
Patent Examining Corps

From: John Love  ORIGINAL SIGNATURE  
Deputy Commissioner for Patent Examination Policy

Subject: Rejections under 35 U.S.C. 112, second paragraph, when examining means (or step) plus function claim limitations under 35 U.S.C. 112, sixth paragraph

The purpose of this memorandum and the companion memorandum entitled "Indefiniteness Rejections under 35 U.S.C. 112, second paragraph" is to remind the examining corps of the appropriate use of indefiniteness rejections under 35 U.S.C. 112, second paragraph. This memorandum focuses on rejections under 35 U.S.C. 112, second paragraph, when examining means (or step) plus function limitations under 35 U.S.C. 112, sixth paragraph, and provides form paragraphs for these rejections. The primary purpose of the definiteness requirement of claim language is to ensure that the scope of the claims is clear so that the public is informed of the boundaries of what constitutes infringement of the patent.

A rejection under 35 U.S.C. 112, second paragraph, may be appropriate in the following situations when examining means (or step) plus function claim limitations under 35 U.S.C. 112, sixth paragraph:

- (I) When it is unclear whether a claim limitation invokes 35 U.S.C. 112, sixth paragraph;
- (II) When there is no disclosure (or insufficient disclosure) of structure, material, or acts for performing the claimed function; and/or
- (III) When applicant fails to clearly link or associate the disclosed structure, material, or acts to the claimed function.

**I. When it is unclear whether a claim limitation invokes 35 U.S.C. 112, sixth paragraph.**

A claim limitation is presumed to invoke 35 U.S.C. 112, sixth paragraph, if it meets the 3-prong analysis set forth in MPEP 2181, subsection I:

- 1. The claim limitation must use the phrase "means for" or "step for";
- 2. The phrase "means for" or "step for" recited in the claim must be modified by functional language; and
- 3. The phrase "means for" or "step for" recited in the claim must not be modified by sufficient structure, material, or acts for achieving the specified function.

When it is unclear whether a claim limitation invokes 35 U.S.C. 112, sixth paragraph, a rejection under 35 U.S.C. 112, second paragraph, may be appropriate. *See* MPEP 2181.

For example:

(A) A claim limitation does not invoke 35 U.S.C. 112, sixth paragraph, if the phrase “means for” or “step for” is modified by sufficient structure, material, or acts recited in the claim for performing the claimed function. Therefore, if the phrase is modified by some structure, material, or acts recited in the claim, the examiner must determine whether the recited structure, material, or acts are sufficient for performing the claimed function. A rejection under 35 U.S.C. 112, second paragraph, is appropriate if it is unclear to one of ordinary skill in the art whether the recited structure, material, or acts in the claim are sufficient for performing the claimed function. Examiners may use form paragraph 7.34.16 (see section IV of this memorandum) in this situation.

(B) A claim limitation will not be presumed to invoke 35 U.S.C. 112, sixth paragraph, if the claim limitation does not include the phrase “means for” or “step for.” However, if an applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant must either: (1) amend the claim to include the phrase “means for” or “step for” in accordance with the 3-prong analysis set forth in MPEP 2181; or (2) show that even though the phrase “means for” or “step for” is not used, the claim limitation is written as a function to be performed (e.g., “a device for printing”) and does not recite sufficient structure, material, or acts for performing the claimed function which would preclude application of 35 U.S.C. 112, sixth paragraph.<sup>1</sup> If it is unclear whether applicant has sufficiently shown a claim limitation is invoking 35 U.S.C. 112, sixth paragraph, a rejection under 35 U.S.C. 112, second paragraph, is appropriate (e.g., it is unclear whether the claim limitation is modified by sufficient structure for performing the claimed function or it is unclear whether the corresponding structure is sufficiently disclosed in the written description of the specification). Examiners may use form paragraph 7.34.17 (see section IV of this memorandum) in this situation.

## **II. When there is no disclosure (or insufficient disclosure) of structure, material, or acts for performing the claimed function.**

Once the examiner determines that a claim limitation is a means (or step) plus function limitation invoking 35 U.S.C. 112, sixth paragraph, the examiner must review the written description of the specification to determine whether the corresponding structure, material, or acts that perform the claimed function are disclosed.<sup>2</sup> The disclosure must be reviewed from the point of view of one

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<sup>1</sup> For more examples where the phrase “means for” or “step for” was not used in the claim but the Board of Patent Appeals and Interferences or the courts have determined that the claim limitation should be construed as invoking 35 U.S.C. 112, sixth paragraph, see MPEP 2181, subsection I.

<sup>2</sup> Note that drawings may provide a written description of an invention as required by 35 U.S.C. 112. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1565, 19 USPQ2d 1111, 1118 (Fed. Cir. 1991). The corresponding structure, material, or acts may be disclosed in the original drawings, figures, tables, or sequence listing. However, it would not be sufficient if the corresponding structure, material, or acts are disclosed only in the material incorporated by reference. *See* MPEP 2181, subsection III.

skilled in the relevant art.<sup>3</sup> Such claim limitation must be construed to cover the corresponding structure, material, or acts described in the written description of the specification and equivalents thereof.<sup>4</sup> A rejection under 35 U.S.C. 112, second paragraph, is appropriate if there is no disclosure (or insufficient disclosure) of structure, material, or acts for performing the claimed function. A bare statement that known techniques or methods can be used would not be a sufficient disclosure.<sup>5</sup> Examiners may use form paragraph 7.34.18 in this situation.

For a computer-implemented means-plus-function claim limitation that invokes 35 U.S.C. 112, sixth paragraph, the corresponding structure is required to be more than simply a general purpose computer or microprocessor.<sup>6</sup> The corresponding structure for a computer-implemented function must include the algorithm as well as the general purpose computer or microprocessor.<sup>7</sup> The written description of the specification must at least disclose the algorithm that transforms the general purpose microprocessor to a special purpose computer programmed to perform the disclosed algorithm that performs the claimed function.<sup>8</sup> Applicant may express the algorithm in any understandable terms including as a mathematical formula, in prose, in a flow chart, or in any other manner that provides sufficient structure.<sup>9</sup> See MPEP 2181 for examples where the courts held that the corresponding structure is adequate for the computer-implemented means-plus-function claim limitations.<sup>10</sup> A rejection under 35 U.S.C. 112, second paragraph, is appropriate if the written description of the specification discloses no corresponding algorithm.<sup>11</sup> For example, merely referencing to a general purpose computer with appropriate programming without providing any detailed explanation of the appropriate programming<sup>12</sup>, or simply reciting software without providing some detail about the means to accomplish the function<sup>13</sup>, would not be an adequate disclosure of the corresponding structure to satisfy the requirements of 35 U.S.C. 112, second paragraph, even when one of ordinary skill in the art is capable of writing the software to convert a general purpose computer to a special purpose computer to perform the claimed function.

If there is no disclosure (or insufficient disclosure) of the structure for performing the claimed function in a means-plus-function limitation, the examiner should carefully determine whether the disclosure requirements of 35 U.S.C. 112, first paragraph, are met. The examiner should determine whether the written description adequately supports such claim under 35 U.S.C. 112,

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<sup>3</sup> See *Medical Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1211, 68 USPQ2d 1263, 1268 (Fed. Cir. 2003).

<sup>4</sup> See 35 U.S.C. 112, sixth paragraph.

<sup>5</sup> See *In re Donaldson Co.*, 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) (in banc); and *Biomedino, LLC v. Waters Technology Corp.*, 490 F.3d 946, 952, 83 USPQ2d 1118, 1123 (Fed. Cir. 2007).

<sup>6</sup> See *Aristocrat Technologies, Inc. v. International Game Technology*, 521 F.3d 1328, 1333, 86 USPQ2d 1235, 1239-40 (Fed. Cir. 2008).

<sup>7</sup> See *WMS Gaming, Inc. v. International Game Technology*, 184 F.3d 1339, 51 USPQ2d 1385 (Fed. Cir. 1999).

<sup>8</sup> See *Aristocrat*, 521 F.3d at 1338, 86 USPQ2d at 1243.

<sup>9</sup> See *Finisar Corp. v. The DIRECTV Group Inc.*, 523 F.3d 1323, 1340, 86 USPQ2d 1609, 1623 (Fed. Cir. 2008).

<sup>10</sup> See, e.g., *In re Dossel*, 115 F.3d 942, 946-47, 42 USPQ2d 1881, 1885; *Intel Corp. v. VIA Technologies, Inc.*, 319 F.3d 1357, 1366, 65 USPQ2d 1934, 1941 (Fed. Cir. 2003).

<sup>11</sup> See *Aristocrat*, 521 F.3d at 1337-38, 86 USPQ2d at 1243.

<sup>12</sup> See *Id.* at 1334, 86 USPQ2d at 1240.

<sup>13</sup> See *Finisar*, 523 F.3d at 1340-41, 86 USPQ2d at 1623.

first paragraph.<sup>14</sup> To satisfy the written description requirement, the specification must describe the claimed invention in sufficient detail that one of ordinary skill in the art can reasonably conclude that the inventor had possession of the claimed invention.<sup>15</sup> Furthermore, the examiner should determine whether the written description enables the scope of the claim as to the means-plus-function limitation which covers the corresponding structure disclosed in the written description of the specification. For example, if a claim limitation is construed to include both mechanical side impact sensors and electronic side impact sensors for performing the function of initiating an occupant protection apparatus (e.g., a side air bag in a car), the enablement requirement would not be satisfied if the written description did not enable the electronic side impact sensors as well as the mechanical side impact sensors.<sup>16</sup> Also, if the written description fails to disclose any program or algorithm and more than routine experimentation would be required of one skilled in the art to generate such a program, the examiner would have a reasonable basis for making an enablement rejection under 35 U.S.C. 112, first paragraph. See MPEP 2164.06(c).

### **III. When applicant fails to clearly link or associate the disclosed structure, material, or acts to the claimed function.**

The structure disclosed in the written description of the specification is the corresponding structure only if the written description of the specification or the prosecution history **clearly links or associates** that structure to the function recited in a means-plus-function claim limitation under 35 U.S.C. 112, sixth paragraph.<sup>17</sup> The requirement that a particular structure be clearly linked with the claimed function in order to qualify as corresponding structure is the *quid pro quo* for the convenience of employing 35 U.S.C. 112, sixth paragraph, and is also supported by the requirement of 35 U.S.C. 112, second paragraph, that an invention must be particularly pointed out and distinctly claimed.<sup>18</sup> For a means (or step) plus function claim limitation that invokes 35 U.S.C. 112, sixth paragraph, a rejection under 35 U.S.C. 112, second paragraph, is appropriate if one of ordinary skill in the art cannot identify what structure, material, or acts disclosed in the written description of the specification perform the claimed function. Examiners may use form paragraph 7.34.19 in this situation.

In rare circumstances where the written description of the specification implicitly (rather than expressly) sets forth the structure, material, or acts that perform the claimed function of a means (or step) plus function claim limitation, 35 U.S.C. 112, second paragraph, may be satisfied if one of ordinary skill in the art can identify the structure, material, or acts disclosed in the written description. In these situations, the examiner may still require the applicant to amend the specification pursuant to 37 CFR 1.75(d) and MPEP 608.01(o) to explicitly state, with reference to the terms and phrases of the claim, what structure, material, or acts perform the claimed

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<sup>14</sup> See MPEP 2181, subsections II and IV, and 2163.

<sup>15</sup> See, e.g., *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003); *Fas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1563, 19 USPQ2d at 1116.

<sup>16</sup> See *Auto. Techs. Int'l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 84 USPQ2d 1108 (Fed. Cir. 2007); and also *Sitrick v. Dreamworks LLC*, 516 F.3d 993, 85 USPQ2d 1826 (Fed. Cir. 2008).

<sup>17</sup> See *B. Braun Medical Inc., v. Abbott Laboratories*, 124 F.3d 1419, 1424, 43 USPQ2d 1896, 1900 (Fed. Cir. 1997).

<sup>18</sup> See *Medical Instrumentation & Diagnostics Corp.*, 344 F.3d at 1211, 68 USPQ2d at 1268.

function. Accordingly, in the situation in which the written description only implicitly or inherently sets forth the structure, material, or acts corresponding to the claimed function in compliance with 35 U.S.C. 112, second paragraph:

- (1) The examiner should require applicant to clarify the record by either: (a) amending the written description to expressly recite what structure, material, or acts perform the claimed function, or (b) stating on the record what structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function (may use form paragraph 7.34.20); or
- (2) The examiner should state on the record what structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function.

#### IV. Form Paragraphs

The following new form paragraphs will be available as custom form paragraphs until OACS is updated:

**¶ 7.34.16 Rejections under 35 U.S.C. 112, Second Paragraph, The Phrase “Means for” or “Step for” is Used, but Unclear Whether the Recited Structure, Material, or Acts in the Claim Are Sufficient for Performing the Claimed Function**

The claim limitation “[1]” uses the phrase “means for” or “step for”, but it is modified by some structure, material, or acts recited in the claim. It is unclear whether the recited structure, material, or acts are sufficient for performing the claimed function which would preclude application of 35 U.S.C. 112, sixth paragraph, because [2].

If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to amend the claim so that the phrase “means for” or “step for” is clearly **not** modified by sufficient structure, material, or acts for performing the claimed function.

If applicant does **not** wish to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to amend the claim so that it will clearly not be a means (or step) plus function limitation (e.g., deleting the phrase “means for” or “step for”).

#### Examiner Note:

1. In bracket 1, recite the claim limitation that causes the claim to be rejected under 35 U.S.C. 112, second paragraph.
2. In bracket 2, explain why it is unclear whether the claim limitation invokes 35 U.S.C. 112, sixth paragraph (e.g., why it is unclear whether the limitation recites sufficient structure, material, or acts to preclude the application of 35 U.S.C. 112, sixth paragraph.)



3. This form paragraph may be used when the phrase “means for” or “step for” is used in the claim limitation and it is unclear to one of ordinary skill in the art whether the recited structure, material, or acts in the claim are sufficient for performing the claimed function.
4. This form paragraph must be preceded by form paragraphs 7.30.02 and 7.34.01.

**¶ 7.34.17 Rejections under 35 U.S.C. 112, 2nd Paragraph, Unclear Whether Claim Limitation is Invoking 35 U.S.C. 112, Sixth Paragraph, the Phrase “Means for” or “Step for” is Not Used**

Applicant asserts that the claim element “[1]” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, it is unclear whether the claim element is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph, because [2]. If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to:

- (a) Amend the claim to include the phrase “means for” or “step for” in accordance with these guidelines: the phrase “means for” or “step for” must be modified by functional language and the phrase must **not** be modified by sufficient structure, material, or acts for performing the claimed function; or
- (b) Show that the claim limitation is written as a function to be performed and the claim does **not** recite sufficient structure, material, or acts for performing the claimed function which would preclude application of 35 U.S.C. 112, sixth paragraph. For more information, see MPEP 2181.

**Examiner Note:**

1. This form paragraph may be used in response to an applicant’s reply in which applicant asserted that a claim limitation is invoking 35 U.S.C. 112, sixth paragraph, even though the phrase “means for” or “step for” is not used in the claim limitation.
2. In bracket 1, recite the claim limitation that causes the claim to be rejected under 35 U.S.C. 112, second paragraph.
3. In bracket 2, explain why it is unclear whether the claim limitation invokes 35 U.S.C. 112, sixth paragraph. For example, it is unclear whether the claim limitation is modified by sufficient structure for performing the claimed function or it is unclear whether the corresponding structure is sufficiently disclosed in the written description of the specification.
4. This form paragraph must be preceded by form paragraphs 7.30.02 and 7.34.01.

**¶ 7.34.18 Rejections under 35 U.S.C. 112, 2nd Paragraph, No Disclosure or Insufficient Disclosure of the Structure, Material, or Acts for Performing the Function Recited in a Claim Limitation Invoking 35 U.S.C. 112, Sixth Paragraph**

Claim element “[1]” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. [2]

Applicant is required to:

- (a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or
- (b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

- (a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or
- (b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP 2181 and 608.01(o).

**Examiner Note:**

- 1. In bracket 1, recite the means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph.
- 2. In bracket 2, explain why there is insufficient disclosure of the corresponding structure, material, or acts for performing the claimed function.
- 3. This form paragraph must be preceded by form paragraphs 7.30.02 and 7.34.01.

¶ 7.34.19 *Rejections under 35 U.S.C. 112, 2nd Paragraph, Fails to Clearly Link or Associate the Disclosed Structure, Material, or Acts to the Function Recited in a Claim Limitation Invoking 35 U.S.C. 112, Sixth Paragraph*

Claim element “[1]” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function. [2]

Applicant is required to:

- (a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or
- (b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or
- (c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP 2181 and 608.01(o).

**Examiner Note:**

- 1. In bracket 1, recite the means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph.
- 2. In bracket 2, explain why the written description of the specification fails to clearly link or associate the structure, material, or acts to the claimed function.
- 3. This form paragraph must be preceded by form paragraphs 7.30.02 and 7.34.01.

¶ 7.34.20 *The Specification is Objected to, The Written Description Only Implicitly or Inherently Discloses the Structure, Material, or Acts for Performing the Function Recited in a Claim Limitation Invoking 35 U.S.C. 112, Sixth Paragraph*

Claim element “[I]” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. The written description only implicitly or inherently sets forth the corresponding structure, material, or acts that perform the claimed function.

Pursuant to 37 CFR 1.75(d) and MPEP 608.01(o) and 2181, applicant is required to:

- (a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or
- (b) Amend the written description of the specification such that it expressly recites the corresponding structure, material, or acts that perform the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or
- (c) State on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function.

**Examiner Note:**

In bracket 1, recite the means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph.

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**Halliburton Energy Services, Inc. v. MI LLC, 514 F. 3d 1244 - Court of Appeals, Federal Circuit 2008**

514 F.3d 1244 (2008)

**HALLIBURTON ENERGY SERVICES, INC., Plaintiff-Appellant,  
v.  
M-I LLC (doing business as I Drilling Fluids L.L.C.), Defendant-Appellee.**

No. 2007-1149.

United States Court of Appeals, Federal Circuit.

January 25, 2008.

<sup>1244</sup> Edward D. Manzo, Cook, Alex, McFarron, Manzo, Cummings & Mehler, Ltd., of Chicago, Illinois, argued for plaintiff-appellant. With him on the brief were Monte M. Bond and David L. Patterson, Dykema Gossett PLLC, of Dallas, Texas.

John R. Keville, Howrey LLP, of Houston, Texas, argued for defendant-appellee. With him on the brief were Stephen H. Cagle and Richard L. Stanley. Of counsel on the brief was S. Calvin Capshaw, Brown McCarroll LLP, of Longview, Texas.

<sup>1244</sup> Before MICHEL, Chief Judge, BRYSON, Circuit Judge, and FOGEL, <sup>1244</sup> District Judge.

MICHEL, Chief Judge.

Halliburton Energy Services, Inc. ("Halliburton") appeals from a final judgment of the United States District Court for the Eastern District of Texas. *Halliburton Energy Services, Inc. v. M-I LLC*, No. 6:05-CV-155 (E.D. Tex. Nov. 20, 2006) ("Judgment Order"). The district court granted summary judgment in favor of M-I LLC ("M-I"), holding that independent claims 1-3 and 5 and their asserted dependent claims of U.S. Patent No. 6,887,832 B2 ("the '832 patent") were invalid as indefinite under 35 U.S.C. § 112, ¶ 2. We heard oral argument on November 7, 2007. Because a claim term in each asserted claim lacked clear meaning to the ordinary artisan, we affirm.

## I.

Halliburton is the assignee of the '832 patent, which relates to oil field drilling fluids that are fragile gels. In the process of drilling such wells, drilling fluid is used for a variety of purposes, such as "removing drill cuttings from the wellbore, cooling and lubricating the drill bit, aiding in support of the drill pipe and drill bit, and providing a hydrostatic head to maintain the integrity of the wellbore walls and prevent well blowouts." '832 patent col.1, ll.27-31.

The '832 patent claims recite certain fragile gel drilling fluids. Claim 1 for example recites:

1. A method for conducting a drilling operation in a subterranean formation using a *fragile gel* drilling fluid comprising:

- (a) an invert emulsion base;
- (b) one or more thinners;
- (c) one or more emulsifiers; and
- (d) one or more weighting agents, wherein said operation includes running casing in a borehole.

(emphasis added).

During prosecution, Halliburton distinguished the claims of the '832 patent from prior art fluids by stating that the claims were "limited to" a "fragile gel" drilling fluid or the method of using a "fragile gel" drilling fluid. Thus, although the term "fragile gel" appears only in the preamble of the asserted independent claims, Halliburton concedes that the claimed drilling fluids are limited to those that are "fragile gels." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1248, 1305 (Fed.Cir. 1999) ("If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is 'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim.") (citations omitted). The specification defines "fragile gels" as follows:

A "fragile gel" as used herein is a "gel" that is easily disrupted or thinned, and that liquefies or becomes less gel-like and more liquid-like under stress, such as caused by moving the fluid, but which quickly returns to a gel when the movement or other stress is alleviated or removed, such as when circulation of the fluid is stopped, as for example when drilling is stopped. The "fragiliness" of the "fragile gels" of the present invention contributes to the unique and surprising behavior and advantages of the present invention. The gels are so "fragile" that it is believed that they may be disrupted by a mere pressure wave or a compression wave during drilling. They seem to break instantaneously when disturbed, reversing from a gel back into a liquid form with minimum pressure, force and time and with less pressure, force and time than known to be required to convert prior art fluids from a gel-like state into a flowable state.

'832 patent col.2 ll.26-42.

In May 2005, Halliburton sued M-1 in the United States District Court for the Eastern District of Texas, alleging that its Rheilant drilling mud system infringed certain claims of the '832 patent. M-1 moved for summary judgment of invalidity, arguing that the asserted claims of the '832 patent were invalid for indefiniteness, lack of enablement, and/or lack of written description. After holding a combined *Markman* and motion hearing to address claim construction disputes as well as M-1's motion for summary judgment of invalidity, the district court granted M-1's motion for summary judgment, finding that all asserted claims of the '832 patent were invalid as indefinite. *Halliburton Energy Serv., Inc. v. MI LLC*, 456 F.Supp.2d 811, 825 (E.D. Tex.2006).

First, the district court looked at the definition of fragile gel in the specification and found that it was too subjective and unclear because it relied on terms such as "easily transitions," "easily disrupted or thinned," "less gel-like," "more liquid-like," "quickly returns to a gel," "break instantaneously," and "minimum pressure, force, and time." *Id.* at 817. Additionally, the district court rejected Halliburton's argument that Figure 3 (depicted below) and Figure 4 of the '832 patent distinguish the invention from the prior art. *Id.* at 822-23.

SF fluids are prior art fluids whereas ACCOLADETM fluids have the characteristics of the invention of the '832 patent. '832 patent col.4 ll.65-col.5 ll.7. In Figure 3, at around the 70 minute mark, the height of the curve when stress is applied represents the strength of the gel that the fluid forms at rest, and the speed at which the curve falls back on itself indicates how quickly the gel breaks (i.e., transitions back to a liquid state). The district court found that this graph did not delineate the bounds of the invention because both prior art fluids and fluids of the invention exhibit the same shape curves (the curves of the 12.1 SF, 12.65 ACCOLADE, and 15.6 ACCOLADE fluids all fall directly back on themselves). *Halliburton*, 456 F.Supp.2d at 820. The primary difference between these fluids is the height of the curves (i.e., the strength of the gels formed), but the district court found that Halliburton had produced no evidence of "precisely how high the vertical leg of a fluid's L-shaped curve must reach—i.e., how 'strong' a gel must be—for that fluid to exhibit 'fragile gel behavior.'" *Id.*

The district court also noted that Halliburton's proposed additional limitation to the term "fragile gel," that it contains no or only low amounts of organophilic clay or lignite, was improperly imported from the specification, which states that the fragile gel of certain embodiments of the invention of the patent preferably does not have these clays. *Id.* at 824. The court found that the doctrine of claim differentiation further counseled against this construction because dependent claims added the limitation that the fluid is "substantially free of organophilic clay." *Id.* at 824-25.

In November 2006, the court issued a final judgment that all asserted claims of the '832 patent were proven invalid as indefinite, held that all other issues of infringement and validity were moot, and dismissed M-1's counterclaims without prejudice. This timely appeal followed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## II.

We review both a district court's grant of summary judgment and a conclusion that a claim is indefinite under 35 U.S.C. § 112, ¶ 2 *de novo*. *Datamize, LLC v. Plurimetre Software, Inc.*, 417 F.3d 1342, 1347 (Fed.Cir.2005).

35 U.S.C. § 112, ¶ 2 requires that the specification of a patent "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." Because claims delineate the patentee's right to exclude, the patent statute requires that the scope of the claims be sufficiently definite to inform the public of the bounds of the protected invention, i.e., what subject matter is covered by the exclusive rights of the patent. Otherwise, competitors cannot avoid infringement, defeating the public notice function of patent claims. *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed.Cir.1995) ("[T]he primary purpose of the requirement is to guard against unreasonable advantages to the patentee and disadvantages to others arising from uncertainty as to their [respective] rights.") (quoting *Gen. Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369, 58 S.Ct. 899, 82 L.Ed. 1402 (1938)). The Supreme Court has stated that "[t]he statutory requirement of particularity and distinctness in, claims is met only when [the claims] clearly distinguish what is claimed from what went before in the art and clearly circumscribe what is foreclosed from future enterprise." *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 229,

236, 63 S.Ct. 165, 87 L. Ed. 232 (1942).

This court has applied the definiteness requirement of 35 U.S.C. § 112, ¶ 2 in numerous circumstances. For example, we have held claims indefinite where a claim recites means-plus-function elements without disclosing corresponding structure in the specification, *Blomberg LLC v. Waters Tectis Corp.*, 490 F.3d 949, 950 (Fed.Cir.2007), includes a numeric limitation without disclosing which of multiple methods of measuring that number should be used, *Honeywell Int'l Inc. v. Int'l Trade Comm'n*, 341 F.3d 1332, 1340 (Fed.Cir.2003), and contains a term that is "completely dependent on a person's subjective opinion," *Datamize*, 417 F.3d at 1350. We have also stated that a claim could be indefinite if a term does not have proper antecedent basis where such basis is not otherwise present by implication or the meaning is not reasonably ascertainable, *Everize Holdings, Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366, 1370-71 (Fed.Cir.2006). The common thread in all of these cases is that claims were held indefinite only where a person of ordinary skill in the art could not determine the bounds of the claims, i.e., the claims were insolubly ambiguous.

Of course, claims are not indefinite merely because they present a difficult task of claim construction. Instead, "[i]f the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds." *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed.Cir.2001) (citations omitted). Proof of indefiniteness requires such an exacting standard because claim construction often poses a difficult task over which "expert witnesses, trial courts, and even the judges of this court may disagree." *Id.* Nevertheless, this standard is met where an accused infringer shows by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, <sup>1240</sup> and the prosecution history, as well as her knowledge of the relevant art area.

In this case, the district court found that the asserted claims, which contained the limitation that the drilling fluid be a "fragile gel," were indefinite. "Only claims 'not amenable to construction' or 'insolubly ambiguous' are indefinite." *Datamize*, 417 F.3d at 1347 (citing *Novo Indus. L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1353 (Fed.Cir.2003); *Honeywell*, 341 F.3d at 1338; *Exxon Research*, 265 F.3d at 1375). Because we conclude that neither Halliburton's proposed definition nor any other possible construction resolves the ambiguity in the scope of the term "fragile gel," we agree with the district court that claims containing that term are indefinite.<sup>1241</sup>

Halliburton argues that "fragile gel" as used in the asserted claims is definite and has a three-part definition:

- 1) A gel that easily transitions to a liquid state upon the introduction of force (e.g., when drilling starts) and returns to a gel when the force is removed (e.g., when drilling stops); and
- 2) At rest, is capable of suspending drill cuttings and weighting materials; and
- 3) Contains no organophilic clay or organophilic lignite or can contain low amounts of organophilic clay or lignite individually or in combination so that the fragile gel can still easily transition between a gel and liquid state and suspend drill cuttings and weighting materials.

We address the third part of Halliburton's definition (no or low organophilic clay or lignite) first, and conclude that "fragile gels" that have no or low organophilic clay or lignite are merely preferred embodiments of the invention covered by certain dependent claims, and thus "fragile gel" as used in the independent claims is not limited to those embodiments.

The specification of the '832 patent states that one of the advantages of the invention is that it "suspends drill cuttings through its gel or gel-like characteristics, *without need* for organophilic clays to add viscosity to the fluid." '832 patent col.2 ll.48-51 (emphasis added). It also states that "preferably no organophilic clays are added to the drilling fluid for use in the invention." *Id.* at col.3 ll.51-53 (emphasis added).

Contrary to Halliburton's argument, nothing in the specification of the '832 patent requires the fragile gel drilling fluid <sup>1251</sup> as claimed to have low or no organophilic clay. Instead, the specification merely says there is no need for such clays. Absence of need for a component does not necessarily mean that that component is absent, or present only in low amounts. Additionally, the specification states that "preferably" none of these clays are added; this strongly suggests that absence of clays is simply a preferred embodiment. This reading is reinforced by the dependent claims: claims 20, 58, 95, 125 add the limitation that the fluid is "substantially free of organophilic clay." Thus, a requirement of low or no organophilic clays is not properly part of the construction of "fragile gel" as contained in the asserted independent claims.

We next review the remainder of Halliburton's proposed definition. The first two parts of Halliburton's definition (i.e., that fragile gels are those that easily transition to a liquid state upon the introduction of force and return to a gel when the force is removed, and those that are capable of suspending drill cuttings and weighting materials at rest) are indeed supported by the specification. Regarding the first part, the specification states:

A "fragile gel" as used herein is a "gel" that is easily disrupted or thinned, and that liquefies or becomes less gel-like and more liquid-like under stress, such as

caused by moving the fluid, but which quickly returns to a gel when the movement or other stress is alleviated or removed, such as when circulation of the fluid is stopped, as for example when drilling is stopped.

'832 patent col.2 ll.26-33. And regarding the second part:

When drilling is stopped while using a drilling fluid of the present invention, and consequently the stresses or forces associated with drilling are substantially reduced or removed, the drilling fluid forms a gel structure that allows it to suspend drill cuttings and weighting materials for delivery to the well surface.

*Id.* at col.2 ll.43-48.

The fact that Halliburton can articulate a definition supported by the specification, however, does not end the inquiry. Even if a claim term's definition can be reduced to words, the claim is still indefinite if a person of ordinary skill in the art cannot translate the definition into meaningfully precise claim scope. Having reviewed the remaining two parts of Halliburton's proposed construction, both individually and in combination, in the context of the intrinsic record and the knowledge of a person of ordinary skill in the art, we hold that the ambiguity as to the scope of "fragile gel" cannot be resolved.

Halliburton argues that the first part of its definition (i.e., a gel that easily transitions from gel to liquid and back again) is sufficiently objective so that a skilled artisan would understand the limits of the claimed "fragile gel." Halliburton primarily focuses on the L-shaped curve shown in Figure 3 of the '832 patent.<sup>1251</sup> According to Halliburton, a person of ordinary skill in the art would have interpreted Figure 3 as requiring that fragile gels of the invention exhibit "L-shaped" curves when tested with an off-the-shelf Brookfield viscometer. Figure 3 shows Brookfield test data for two fluids of the '832 patent (ACCOLADE) and two prior art fluids (SF). Halliburton argues that the key feature of the L-shaped curve is that it falls directly back onto itself when force is applied. While Halliburton admits that the prior art 12.1 SF fluid also exhibits this very same feature, it notes that the heavier 15.6 SF fluid does not. Halliburton argues, however, that whether the prior art (i.e., 12.1 SF fluid) is covered by the claim as construed is properly addressed in validity challenges of other types (anticipation, obviousness, etc.) rather than in claim construction or in evaluating definiteness. We disagree that the evaluation of a claim's definiteness cannot include whether the patent expressly or at least clearly differentiates itself from specific prior art. Such differentiation is an important consideration in the definiteness inquiry because in attempting to define a claim term, a person of ordinary skill is likely to conclude that the definition does not encompass that which is expressly distinguished as prior art.

Of course, that is not to suggest that a claim can never be definite and yet read on the prior art. For example, a claim that recites a specific numeric range for a physical property may be definite even though prior art products fell within that range. In such a case, a person of ordinary skill in the art would know the boundaries of the claim, and the focus would properly be on other validity challenges (e.g., anticipation).

This case presents a different situation, however. Here, in describing Figure 3, the figure on which Halliburton primarily relies in asserting that "fragile gel" is definite, the patent specification stated that Figure 3 distinguished the fluids of the invention (ACCOLADE) from the prior art fluids (SF):

FIG. 3 indicates superior response and performance by the drilling fluids of the present invention. Not only do the fluids of the present invention build up more gel when at rest, which enables the fluids of the invention to better maintain weight materials and drill cuttings in suspension when at rest—a time prior art fluids are more likely to have difficulty suspending such solid materials—but the fluids of the present invention nevertheless surprisingly provide less resistance to the shear, which will result in lower ECDs as will be discussed further below.

'832 patent col.6 ll.5-14 (emphases added). A person of ordinary skill would not have ignored these explicit teachings, but rather would have looked to Figure 3 to try to determine the bounds of the claims.

<sup>1251</sup> Thus, we reject Halliburton's assertion that a "fragile gel" can be defined by an L-shaped curve alone because the specification does not distinguish how the "fragile gels" claimed in the '832 patent performed differently than the disclosed prior art—how much more quickly the gels broke when stress was imposed or how much more quickly the gels returned when stress was removed. Halliburton's failure to distinguish the fragility of the drilling fluids of the invention from the close prior art (the 12.1 SF fluid that exhibited the L-shaped curve behavior) is fatal. *Amgen, Inc. v. Chugai Pharm. Co., Ltd.*, 927 F.2d 1200, 1218 (Fed.Cir.1991) (holding that the term "at least about" was indefinite because the patent provided no guidance as to where the line should be drawn between the numerical value of the prior art cited in the prosecution history and the close numerical value in the patent); see also *Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116, 1119-20 (Fed.Cir.2002) (recognizing that guidance as to measurement of a term of degree can come from the intrinsic record or from the knowledge of a person of ordinary skill in the art).

Even if the '832 patent distinguished "fragile gels" of the invention from those of the prior art, it did not place any limit on the scope of what was invented beyond the prior art. By Halliburton's own admission, drilling fluids which included an invert emulsion base, a thinner, an emulsifier, and a weighting agent were known in the prior art, and independent claims 1-3 and 5 are distinguishable from the prior art only because they are "fragile gels." By failing to

identify the degree of the fragility of its invention, Halliburton's proposed definition would allow the claims to cover not only that which it invented that was superior to the prior art, but also all future improvements to the gel's fragility.<sup>128</sup> While patentees are allowed to claim their inventions broadly, they must do so in a way that distinctly identifies the boundaries of their claims. The fluids of the '832 invention may provide less resistance to shear (i.e., break more quickly) than the prior art fluids, but the degree of improved speed remains ambiguous. Thus, it is unclear whether a person of ordinary skill in the art would have interpreted this claim as having an upper bound of fragility.<sup>129</sup>

We note that where a claim is ambiguous as to its scope we have adopted a narrowing construction when doing so would still serve the notice function of the claims. See *Altronic Alternatives*, 73 F.3d at 1381 ("Where there is an equal choice between a broader and a narrower meaning of a claim, and there is an enabling disclosure that indicates that the applicant is at least entitled to a claim having the narrower meaning, we consider the notice function of the claim to be best served by adopting the narrower meaning."). In this case, however, Halliburton asks that we resolve the ambiguity in a way that gives it the broadest possible construction (i.e., that its claim covers all future improvements without regard to whether Halliburton invented such improvements); such a construction would undermine the notice function of the claims because it would allow Halliburton to benefit from the ambiguity, rather than requiring Halliburton to give proper notice of the scope of the claims to competitors. Additionally, adopting the broadest possible construction could retard innovation because cautious competitors may steer too far around that which Halliburton actually invented, neglecting improvements that otherwise might be made. We thus hold that the term "fragile gel" is not sufficiently definite if construed in accordance with the first part of Halliburton's proposed definition because a person of ordinary skill in the art could not determine how quickly the gel must transition to a liquid when force is applied and how quickly it must return to a gel when the force is removed.

The second part of Halliburton's definition (i.e., the fragile gel is capable of suspending drill cuttings and weighting materials at rest) fares no better because nothing in the record suggests what degree of such capability is sufficient. Halliburton argues that a person of ordinary skill would know how to measure the quantity of drill cuttings suspended in a fluid (either through laboratory measurements or in the field for example by measuring weight (or density) of the fluid when entering the borehole and when exiting the borehole), and would also know how to determine when the fluid no longer exhibited the L-shaped curve behavior when tested with a Brookfield viscometer. The fact that an artisan would know how to perform these measurements and tests, however, says nothing about whether the artisan would also know which fluids were "fragile gels" as that term is used in the claims of the '832 patent.

Assuming a person of ordinary skill would add solids incrementally, determining the effect of each addition by observing whether the fluid still maintains its fragile gel characteristics (the L-shaped curve), as Halliburton suggests, this testing protocol still does not answer the fundamental question: what quantity, weight, size and/or volume of cuttings must be suspended? Halliburton does not attempt to resolve this ambiguity, instead arguing that this limitation merely means adequate for the circumstances.

In *Geneva Pharmaceuticals, Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed.Cir.2003), we refused to adopt a proposed construction for "synergistically effective amount" ("a formulation falls outside the scope of the claims if a given antibiotic, bacteria, and disease combination provides no synergy") because the construction would have been indefinite. Because the patent claims at issue did not identify the specific bacteria, we rejected the proposed construction because "a given embodiment would simultaneously infringe and not infringe the claims, depending on the particular bacteria chosen for analysis." *Id.* We concluded that such a construction that results in an artisan not knowing from "one bacterium to the next whether a particular composition standing alone is within the claim scope or not" was "the epitome of indefiniteness." *Id.*

As in *Geneva Pharmaceuticals*, under Halliburton's proposed construction in this case, an artisan would not know from one well to the next whether a certain drilling fluid was within the scope of the claims because a wide variety of factors could affect adequacy (formation geology, wellbore size, depth, angle, etc.). In other words, a given fluid might be adequate to suspend drill cuttings in some formations and/or well configurations, whereas in others it would not be. When a proposed construction requires that an artisan make a separate infringement determination for every set of circumstances in which the composition may be used, and when such determinations are likely to result in differing outcomes (sometimes infringing and sometimes not), that construction is likely to be indefinite.

We also note that the two parts of Halliburton's proposed definition discussed above (ability of the fluid to transition quickly from gel to liquid, and the ability of the fluid to suspend drill cuttings at rest) are functional, i.e., the fluid is defined "by what it does rather than what it is." *In re Swinehart*, 58 C.C.P.A. 1027, 439 F.2d 210, 212 (1971). The Supreme Court in two early cases identified the dangers of using only functional claim limitations to distinguish the claimed invention from the prior art. In *General Electric*, the Court held that a vice of functional claiming occurs, "when the inventor is painstaking when he recites what has already been seen, and then uses conveniently functional language at the exact point of novelty." *General Electric*, 304 U.S. at 371, 58 S.Ct. 899 (holding claims invalid where the grains of the claimed lighting filament were distinguished from the prior art only because they were "of such size and contour as to prevent substantial sagging and offsetting" of the filament during the commercially useful life of the lamp). Likewise, in *United Carbon*, the Court held indefinite claims that recited only "inaccurate suggestions of the functions of the product." *United Carbon*, 317 U.S. at 234, 63 S.Ct. 165 (holding indefinite, patent claims that recited, for example, "substantially (sic) pure carbon black in the form of commercially uniform, comparatively small, rounded smooth aggregates having a spongy or porous exterior").



Although our predecessor court later recognized that "there is nothing intrinsically wrong with" using functional language in claims, it noted that in some instances, use of functional language can fail "to provide a clear-cut indication of the scope of subject matter embraced by the claim" and thus can be indefinite. *Swingward*, 439 F.2d at 212-13 (holding that the term "transparent" was definite because the disclosure, which showed that a substantial amount of infrared radiation was always transmitted even though the precise degree of transparency varied depending on certain factors, was sufficiently clear).

When a claim limitation is defined in purely functional terms, the task of determining whether that limitation is sufficiently definite is a difficult one that "is highly dependent on context" (e.g., the disclosure in the specification and the knowledge of a person of ordinary skill in the relevant art area). We note that the patent drafter is in the best position to resolve the ambiguity, in the patent claims, and it is highly desirable that patent examiners demand that applicants do so in appropriate circumstances so that the patent can be amended during prosecution rather than attempting to resolve the ambiguity in litigation.

A patent drafter could resolve the ambiguities of a functional limitation in a number of ways.<sup>16</sup> For example, the ambiguity might be resolved by using a quantitative "test" metric (e.g., numeric limitation as to a physical property) rather than a qualitative functional feature. The claim term might also be sufficiently definite if the specification provided a formula for calculating a property along with examples that meet the claim limitation and examples that do not. See *Oakley, Inc. v. Surglass Int'l*, 316 F.2d 1331, 1341 (Fed.Cir. 2003) (holding that, at the preliminary injunction stage, the accused infringer had not shown a substantial question of indefiniteness, where the claims and specification linked the claim term "vivid colored appearance" to a calculation for differential effect and then provided examples of when differential effect values were and were not sufficient for a "vivid colored appearance"); see also *in re Marosi*, 710 F.2d 799, 800 (Fed.Cir.1983) (finding claims definite where the applicant's disclosure provided "a general guideline and examples sufficient" to teach an artisan when the claim limitation was satisfied).<sup>17</sup>

In this case, Halliburton differentiated its invention from the prior art because it was a "fragile gel." As discussed above, Halliburton's proposed definition of that term is not sufficiently definite because it does not adequately distinguish the fragileness of the invention from disclosed prior art, it is ambiguous as to whether an upper bound of fragileness is contemplated, and it is ambiguous as to its requisite ability to suspend drill cuttings. In other words, Halliburton's proposed construction of "fragile gel" as used in the claims of the '832 patent is indefinite because it is ambiguous as to the required degree of the fragileness of the gel, the ability of the gel to suspend drill cuttings (i.e., gel strength), and/or some combination of the two. We discern no other construction that can properly be adopted that would render the claims definite.

Thus, we hold that M-I did provide clear and convincing evidence that the term "fragile gel" was indefinite, and that the district court correctly held the claims invalid on that basis.

### III.

For these reasons, the district court's grant of summary judgment of invalidity for indefiniteness is

#### AFFIRMED.

[1] Honorable Jeremy Fogel, District Judge, United States District Court for the Northern District of California, sitting by designation.

[2] Halliburton conceded at oral argument that it does not rely on Figure 4 to support its assertion that the term "fragile gel" is definite. As such, we need not address that figure directly but note only that there is no observable distinction between the relaxation rates (i.e., how quickly fluids return to gel-like state once stress is removed) of at least one of the SF (prior art) fluids and the fluids of the invention of the '832 patent.

[3] At oral argument, Halliburton asserted that the district court erred in finding that the asserted dependent claims stood or fell with the independent claims as to their definiteness. On appeal, Halliburton raised this issue only in a single sentence in the Summary of the Argument section of its opening brief, which did not identify the dependent claims at issue and provided no basis for finding them definite if the independent claims are indefinite. Following argument, Halliburton by letter identified the dependent claims at issue at the time of the district court's summary judgment ruling. Nevertheless, Halliburton has presented nothing on appeal to show that this issue (i.e., whether additional limitations in the dependent claims rendered them sufficiently definite) was raised before the district court. Because Halliburton has inadequately presented this issue on appeal and failed to show it was presented before so as to preserve the issue for appeal, we deem this argument waived. *See* *Stoddard-Bessman Corp. v. Jacobs Corp.*, 238 F.2d 1319, 1320 (Fed.Cir.2002). (Where statements of disagreement with the district court as to the existence of factual disputes do not amount to a developed argument ("citations omitted," see also *United States v. Owsen*, 527 F.2d 895, 896 (7th Cir. 1975) ("A skeleton argument, really nothing more than an assertion, does not preserve a claim . . . Judges are not like pigs, hunting for truffles buried in briefs").

[4] Halliburton also argues that other advantages of the invention provide other objective ways to delineate the scope of "fragile gel," such as lack of sag problems or lack of appreciable pressure spikes when the fragile gel drilling fluid transitions easily from a liquid to a gel and back again. '832 patent col.2 ll. 42-51. While these are disclosed as benefits of the invention, it is unclear how they provide an objective way of determining the scope of the claims. For example, one of the named inventors, Don Siems, testified that to determine whether there were appreciable pressure spikes, a computer would have to compare his prior experience with other prior art fluids to his experience with fluids of the '832 patent. He also testified that pressure measurements in pressure-while-drilling equipment can depend on factors other than the drilling fluid, such as the size of the hole and type of formation. J.A. 1323-24. Thus, it appears that these considerations (sag and pressure spikes) are as ambiguous as Figure 3, on which Halliburton primarily relies.

Additionally, these limitations both appear in dependent claims. Claims 11, 49, 87 ("no appreciable pressure spike is observed by pressure-while-drilling equipment when said drilling is resumed"), claims 19, 57, 94, 127 ("said fluid does not exhibit sag when at rest"). Under the doctrine of claim differentiation, "the presence of a dependent claim that adds particular limitation gives rise to a presumption that the invention in question is not present in the independent claim." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2006) (en banc). While claim differentiation is a presumption that can be rebutted, *Anderson Corp. v. Rice Commodities, Ltd.*, 474 F.3d 361, 370 (Fed. Cir. 2007), Halliburton's argument that the presumption is rebutted in this case is unavailing.

[5] Additionally, by failing to identify the precise composition of the fluids of the invention, Halliburton's proposed definition would allow the claims to cover fluids with added components beyond the four prior art base elements, when use of the additional components results in the same degree of fragility as the fluids of the '332 patent, even though Halliburton never contemplated such compositions.

[6] Of course, a claim may contain a limitation that includes no explicit upper bound at all (e.g., a claim limitation that requires "at least 5%" of an element). Since such a limitation does not contemplate an upper bound beyond what is practically required (e.g., the total percentage must be less than 100%), the limitation may not present definiteness concerns. See *Expt. Research*, 356 F.3d at 1355 (holding that a claim limitation that average particle diameter be greater than 5 was not indefinite where no upper limit on particle size was given). However, when a limitation is ambiguous as to the presence or absence of an upper bound, an inquiry into the definiteness of that limitation is warranted.

[6] Although not determinative on the definiteness issue, it seems clear that the patent drafter could have provided more specifics in this case, either with quantitative metrics as to how quickly the gel must break (time to break at given conditions) and how strong the gel must be (strength at given conditions), or with sufficient examples of fragile gels of the invention to show which such fluids fell within the scope of the claims. *Expt. Research*, 356 F.3d at 1376 (stating that the patent was lacking in "specificity that in some instances would have been easy to provide and would have largely obviated the need to address the issue of indefiniteness" but holding that the flaws ultimately were not "fatal").

[7] Of course, in the 1952 Patent Act, Congress authorized functional claiming, but with limits, in 35 U.S.C. § 112, ¶ 6. For so-called means-plus-function limitations, claim scope is limited to structure disclosed in the specification and equivalents. And if no structure is disclosed, the claim is indefinite. *Barnhart*, 340 F.3d at 950. This statutory provision was meant to preclude the overbreadth inherent in open-ended functional claims, such as those presented in this case which effectively purport to cover any and all means so long as they perform the recited functions.

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JOHN F. CASEY  
LEWIS R. DOVE, LING LIU, JAMES R. DREHLE, R. FREDERICK  
RAU, JR., ROSEMARY O. JOHNSON, and JULIUS BOTKA<sup>1</sup>,  
APPELLANTS

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Appeal 2007-4317  
Application 10/600,600<sup>2</sup>  
Technology Center 1700

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Decided: February 28, 2008

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Before RICHARD TORCZON, CAROL A. SPIEGEL, and MARK  
NAGUMO, *Administrative Patent Judges*.

Opinion by NAGUMO, *Administrative Patent Judge*. Concurring opinion  
by TORCZON, *Administrative Patent Judge*.

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<sup>1</sup> The petition filed 11 February 2005, seeking add the name of Julius Botka as an inventor, was granted on 21 June 2005.

<sup>2</sup> Application filed 19 June 2003. The real party in interest is listed as Agilent Technologies, Inc. (Appeal Brief filed 3 January 2005 ("App. Br."), at 2.)

NAGUMO, *Administrative Patent Judge*

DECISION ON APPEAL

**A. Statement of the Case**

Appellants ("Casey") appeal under 35 U.S.C. § 134 from the final rejection of claims 9–11, 18, and 20 under 35 U.S.C. § 112(2). (App. Br. at 4.) Remaining pending claims 1–8, 12, and 14–17 have been allowed. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

The subject matter on appeal relates to methods of depositing thickfilm dielectrics on a substrate.

The sole issue on appeal is whether the Examiner erred reversibly in rejecting the claims that recite the terms "KQ dielectric" and "KQ CL-90-7858" to identify the dielectric material to be deposited because they are trademarks.

Technical Background

According to the specification, microwave circuits have traditionally been made from thinfilm components that are assembled with one or more active circuit die into packages called "gold bricks," or "bricks," for short. (Specification ("Spec.") at 1, ¶ 2.) For simpler machining and better impedance matching, the thinfilm components are said to be ideally the same thickness as the die. (Spec. at 2, ¶ 2.) Thinfilm components and their correspondingly thin substrates, however, are said to be disadvantageously fragile under the high power, high heat dissipation conditions of high frequency microwave circuits. (Spec. at 2, ¶ 2.) Appellants describe their method as comprising depositing successive layers of thickfilm dielectric on

the substrate, air drying, and then oven drying each layer to allow the solvents to escape, before depositing the next layer. The assembled layers are then fired. (Spec. at 2, ¶ 3.) According to the specification, "[t]hicker dielectric layers translate into wider conductor stripes for a given desired value of microwave impedance, and wider stripes translate into more precise lines and less signal degradation due to conductor loss." (Spec. at 8, ¶ 23.)

Claims 1, 9, and 10 are representative and read as follows:

Claim 1:

A method for depositing a thickfilm dielectric on a substrate, comprising:

- a) depositing a first layer of thickfilm dielectric on the substrate;
- b) air drying the first layer to allow solvents to escape, thereby increasing the porosity of the first layer;
- c) oven drying the first layer;
- d) depositing additional layers of thickfilm dielectric on top of the first layer, oven drying after the deposition of each additional layer; and
- e) firing the deposited layers.

Claim 9:

The method of claim 1, wherein the layers of thickfilm dielectric comprise a KQ dielectric.

Claim 10:

The method of claim 9, wherein the KQ dielectric is KQ CL-90-7858 dielectric.

**B. Findings of Fact (FF)**

Findings of fact throughout this Decision are supported by a preponderance of the evidence of record.

1. The real party in interest for the application on appeal is listed as Agilent Technologies, Inc. ("Agilent") (App. Br. at 2.)
2. The Casey specification describes the dielectrics used in the invention in the following words:

a first layer of thickfilm dielectric **202** is deposited on the substrate **200**. In one embodiment, the dielectric **202** is the KQ CL-90-7858 dielectric (a glass dielectric) available from Heraeus Cermalloy (24 Union Hill Road, West Conshohocken, Pennsylvania, USA). However, the dielectric **202** may be another dielectric and, particularly, may be another KQ dielectric, glass dielectric, or other dielectric with suitable electrical properties.

(Spec. at 4, ¶ 13; emphasis added.)

3. The specification also provides a description of some of the physical properties of the KQ CL-90-7858 dielectric:

KQ CL-90-7858 prints like a standard thickfilm paste; has a dielectric constant of 3.95 (compared with 9.6 for alumina ceramic); has a loss tangent of  $2E-4$ ; may be fired in air in a conventional belt furnace at  $850^{\circ}\text{C}$ ; is optically transparent after firing; and is compatible with DuPont QG150 gold (available from DuPont (1007 Market Street, Wilmington, Delaware, USA)). The low loss and low dielectric constant of KQ CL-90-7858 makes it particularly suitable for building microwave circuits (e.g., microwave transmission lines).

(Spec. at 4-5, ¶ 14.)

The Examiner's Rejection

4. The Examiner has rejected claims 9–11, 18, and 20 as indefinite in the use of the terms "KQ dielectric" and "KQ CL-90-7858" because the terms are trademarks or trade names that are used to identify or describe a particular material or product. (Ans.<sup>3</sup> at 3.)
5. The Examiner reasons that a trademark or trade name identifies the source of the goods, not the goods themselves, and that the rejected claims therefore fail to identify or define the claimed subject matter. (Ans. at 3.)
6. In the Final Rejection, the Examiner notes that websites can vary on a daily basis, and that "the composition of many materials are constantly changed as new materials or combinations of materials are discovered" and urges that Appellants recite the composition of the materials rather than the trademarks. (Final Rejection, mailed 29 July 2004, at 4.)

Casey's Rebuttal

7. Casey argues (App. Br. at 8–9) that its use of the disputed terms complies with at least the second requirement set out by the Manual of Patent Examining Procedure ("MPEP"):  

Names used in trade are permissible in patent applications if:  
(A) Their meanings are established by an accompanying definition which is sufficiently precise and definite to be made a part of a claim, or  
(B) In this country, their meanings are well-known and satisfactorily defined in the literature.

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<sup>3</sup> Examiner's Answer mailed 5 August 2005 ("Ans.").

(MPEP § 608.01(v) (8th Ed., Rev. 6 (September 2007): no change in wording from the MPEP 8th Ed., Rev. 2003, quoted by Casey.)

8. In particular, Casey states that, "[a]s published on Heraeus Cermalloy's website and in published papers, KQ dielectrics are glass dielectrics having a very low loss tangent (around  $10^{-4}$ ) and dielectric constant (around 3.9)." (App. Br. at 9.)
9. Casey states further that the term KQ CL-90-7858 "is even more definite, as [this] is not merely a trademark or trade name, but rather an identifier of a specific product having a specific composition." (App. Br. at 9.)
10. Casey also made these arguments during prosecution of the application. (*See, e.g.*, the Amendment filed 30 June 2004, at 8.)
11. The record does not appear to contain copies of pages from the Heraeus website.
12. Casey does not identify, in its principal brief or in its reply brief, any publications in the record that define either term.
13. In its briefs to the Board, Casey has not provided the composition of the material associated with the term KQ CL-90-7858; nor does such information appear to have been cited on the record before the Examiner.
14. However, as noted *supra* at FF3, certain specific physical characteristics of the material associated with the term KQ CL-90-7858 are reported in the specification.
15. Casey argues further that:

Appellants believe Heraeus Cermalloy's published characteristics and/or compositions of these materials are relied upon by the industry and are not subject to change. Although



Heraeus Cermalloy might introduce an additional KQ dielectric that fits under the KQ dielectric umbrella, Appellants do not believe that Heraeus Cermalloy would change their general definition of KQ dielectric. Nor would Heraeus Cermalloy alter the composition of a dielectric that is specifically identified by a part number (i.e., KQ CL-90-7858).

(App. Br. at 10-11.)

16. Casey admits that the term "KQ dielectric" is a trademark, but that the products covered by the trademark are "limited to a defined group of products . . . [that] are glass dielectrics having a very low loss tangent (around  $10^{-4}$ ) and dielectric constant (around 3.9)." (Reply Br. at 3.)

17. Casey admits further that and that the term "KQ CL-90-7858 dielectric" "may have some trademark value. However, its primary purpose is to serve as an identifier of a specific product having a specific composition." (Reply Br. at 3.)

Further findings of Fact

18. The present record contains no indication that there is an ownership or obligatory relation between Agilent and Heraeus Cermalloy ("Heraeus").

19. Our search (on 20 February 2008) of the Heraeus website (Thick Film Materials),

[http://www.heraeus-th.com/wch2/tfd/e\\_th\\_Home.nsf/\\$frameset/startneu](http://www.heraeus-th.com/wch2/tfd/e_th_Home.nsf/$frameset/startneu)

did not reveal any "hits" for a product called "KQ CL-90-7858." (See Appendix A, attached to this decision.)

### **C. Principles of Law**

A trademark is a mark by which the goods of the trademark owner may be distinguished from the goods of others. 15 U.S.C. § 1052.

During prosecution of an application for patent, “the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

The Federal Circuit has explained recently that claims have been held indefinite “only where a person of ordinary skill in the art could not determine the bounds of the claims, i.e., the claims were insolubly ambiguous.” *Halliburton Energy Services, Inc. v. M-I LLC*, \_\_\_ F.3d \_\_\_, \_\_\_, 2007-1149, slip op. at 7 (Fed. Cir. 2008). The court indicated that the inquiry encompassed the claim language, the specification, the prosecution history, and the knowledge of the artisan in the relevant art area. (*Id.*)

The patent statute places the burden on applicants to precisely define the invention:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. § 112(2); 127 F.3d at 1056.

#### **D. Discussion**

In the present case, the central question is, what do the terms "KQ dielectric" and "KQ CL-90-7858 dielectric," as they are used in the claims, mean to one skilled in the art?

Taken strictly as trademarks of Heraeus, these terms refer to the source of the goods, not to the generic goods themselves. Thus, "KQ dielectric" is whatever low loss tangent (about  $10^{-4}$ ), low dielectric constant (about 3.9) material Heraeus chooses to provide under that name. Similarly, "KQ CL-90-7858" appears to be a specific KQ dielectric material having a loss tangent of  $2 \times 10^{-4}$  and a dielectric constant of 3.95. Casey has not directed our attention to any evidence of record that informs us of the ranges of composition of these materials. Moreover, only a few of their physical properties are reported. (FF 2, 3.)

Casey's arguments that the USPTO has approved the use of trademarks in claims (App. Br. at 8–9) are not well taken. First, neither of the cases cited by Casey, namely, *Ex parte Simpson*, 218 USPQ 1020 (BPAI 1982) and *Ex parte Kitten*, 1999 WL 33134953 (BPAI 1999), is precedential. Bd. Pat. App. & Intf., Std. Operating P. 2 (rev. 7, 26 Dec. 2007). Thus, neither case compels any decision by a merits panel of the Board in any later case. Rather, their effect is limited to the persuasiveness of their arguments. *Kitten*, which distinguishes *Simpson* in *obiter dicta* (the issue of indefiniteness not having been raised during prosecution), is particularly unpersuasive. In any event, as pointed out by the merits panel in *Simpson*, the cases and the MPEP have focused on the issue of the meaning of a trademark in a disclosure, not in a claim. 218 USPQ at 1021. In

particular, the only decision of our reviewing court or its predecessors of which we are aware that resolves the effect of a trademark recited in a claim, analyzes the issue in terms of enablement, not in terms of definiteness. Thus, in *In re Gebauer-Fuelnegg*, 121 F.2d 505 (CCPA 1941), the court considered whether the term "pliolite," as recited in claim 33 (" . . . moisture resistant, adherent and heat sealing composition which is non-tacky at ordinary temperatures comprising a major proportion of a rubber resin (pliolite) . . . ") was, in light of the record, 'such [a] clear, concise, and exact term[s] as to enable any person skilled in the art' to practice the invention." *Id.* at 507.<sup>4</sup> Indefiniteness—whether the scope of the claim was reasonably ascertainable—was not discussed.

As for the passage in the MPEP quoted by Casey and reproduced *supra* (FF 7), that discussion is concerned with the use in specifications of "names used in trade," which the MPEP takes care to define as follows:

a nonproprietary name by which an article or product is known and called among traders or workers in the art, although it may not be so known by the public, generally. Names used in trade do not point to the product of one producer, but they identify a single article or product irrespective of producer."

MPEP § 608.01(v) at 600-101 (8th Ed., Rev. 6, September 2007). Thus, "names used in trade" are, in that discussion, recognized as generic terms by

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<sup>4</sup> The court found that the original application stated that a type of rubber resin could be used, and that 'pliolite' was a commercially available product, which the record showed was available from the Goodyear Tire & Rubber Company. It appears that the term 'pliolite' was introduced to the claims at the behest of the examiner. The court held that it was possible to practice the claimed invention "with the information originally furnished by appellants," and that the substituted specification, explaining in detail the method of making pliolite, did not introduce new matter. *Id.* at 508.

those skilled in the relevant art: they are not trademarks. Similarly, the USPTO has not taken a *per se* approach the presence of trademarks in applications, but has insisted that sufficiency of disclosure be decided on a case-by-case basis. *Id.* at 600-102.

We too shall not adopt a *per se* approach to terms that appear to be trademarks in claims. Rather, we must weigh, case-by-case, whether the disputed terms are used in the claims as indicators of the source of the specific goods or whether the terms are used as labels for the generic goods, and in either case, whether the goods are adequately defined, such that the bounds of the claims can be determined. Once a *prima facie* case has been established that the terms are asserted as trademarks (as opposed to being merely names in trade), the burden shifts to applicants to clarify whether the terms as used in the claims are intended to refer only to the goods provided under those marks by the trademark owner; and, if not, to show that generic equivalents are recognized in the art. In that case, generic language should be substituted for the marks, due care being taken to avoid the introduction of new matter into the specification and claims.

Because, as discussed *infra*, it appears that Casey has argued that the terms are recognized generically in the art, we need not consider whether terms that are used as trademarks to designate only the good provided by the trademark owner, can be recited in a claim that is definite within the meaning of 35 U.S.C. § 112(2).

Casey's arguments, although not models of clarity, read fairly as arguments that, in spite of their admitted status as Heraeus trademarks (Reply Br. at 3), the terms "KQ dielectric" and "KQ CL-90-7858" have

become generic<sup>5</sup>, or, in the language of the MPEP, "names in trade." (*E.g.*, FF 8, 9, 16, 17.) Casey's arguments that the KQ dielectrics, including the specific substance designated by KQ CL-90-7858, are well known and satisfactorily defined in the art are not persuasive. Casey has not directed our attention to any evidence of record indicating that those skilled in the relevant arts would have known the composition of the recited KQ materials well enough to know whether they are practicing the claimed invention when they have not purchased the dielectrics from Heraeus.<sup>6</sup> Similarly, Casey has not directed us to evidence in the record that Casey is in a position to speak for Heraeus as to how Heraeus may or may not elect to use or to change its trademarks or to maintain or change the underlying materials and characteristics with which the marks are associated. Nor are there, for example, declarations addressing this issue from a person of appropriate authority from Heraeus. Thus, Casey's arguments that the trademark terms are permanently fixed to particular goods is not supported by probative evidence, and we accord them no weight.

We conclude, therefore, that it would not be possible for a person of ordinary skill in the art to determine whether they were literally infringing the subject matter of claims 9–11, 18, and 20, unless they had purchased KQ dielectric or KQ CL-90-7858 dielectric from Heraeus as of the filing date (if it is still available: see FF 19). Indeed, on the present record, it does not

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<sup>5</sup> It appears unlikely that the terms would be regarded as "merely descriptive" of the goods (15 U.S.C. § 1052(e)(1)) or functional (§ 1052(e)(5)).

<sup>6</sup> Our function is review: we decline to carry the Appellants' (or the Examiner's) burden by hunting through the record looking for evidence to support their arguments in the first instance.

appear that the ordinary worker using a "home-made" dielectric would be able to determine whether they were infringing under the doctrine of equivalents (assuming, *arguendo*, that that doctrine would be available to the patentee), because he or she would not know or be able to determine the range of composition and characteristics of materials that Heraeus would sell as either KQ dielectric. The following words of the Federal Circuit in *Morris* are apt: "[t]he PTO was not only permitted but obligated to reject [the claims] when appellants failed precisely to define in the written description the disputed language." *Morris*, 127 F.3d at 1057.<sup>7</sup>

The hallmark of indefiniteness is the inability to determine the bounds of the claimed subject matter. Accordingly, we hold that the rejected claims are indefinite.

#### **E. Summary**

In view of the record and the foregoing considerations, it is:

ORDERED that the rejection of claims 9–11, 18, and 20 under 35 U.S.C. § 112(2) is AFFIRMED.

FURTHER ORDERED that no time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

### **AFFIRMED**

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<sup>7</sup> We express no opinion as to whether the specification as filed supports a reasonable alternative definition for the subject matter Casey has attempted to define using the trademarks.

TORCZON, *Administrative Patent Judge*, concurring.

The majority correctly states the current test for indefiniteness—insoluble ambiguity—but then politely ignores the test for the rest of the opinion. Insoluble ambiguity (whatever its merits as a test in an invalidity context) is unworkable as a test during prosecution because it implies that the inverse—soluble ambiguity—adequately satisfies the requirement that claims provide notice of what the applicant regards as his invention.

Soluble ambiguity is an oxymoron. If a contested term can be fixed to a single meaning, then the term was never really ambiguous. Otherwise, ambiguity (as opposed to vagueness) frustrates the notice function of claims. *Compare Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996) (in an invalidity context, choose the narrower of contradictory meanings) with *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (requiring the agency to use the broadest construction). "Insolubly ambiguous" is not a test, but rather a conclusion. Like the old phrase "design choice" in obviousness rejections, it masks rather than elucidates the reasoning behind the rejection.

During prosecution, while the claim is still readily amended, a better test would be (1) is the examiner's concern about the term reasonable? If so, (2) can the claim be amended to more accurately reflect the inventor's intended meaning? The first question is necessary because examiners should not have unfettered authority to rewrite claims on a whim. On the other hand when, as in this case, the examiner has a principled basis for concern, the burden should shift to the applicant to explain why the claim cannot be amended to say explicitly what the applicant insists it already



means. In the context of examination, the best way to "solve" an ambiguity is to amend the claim.

The present appeal provides a case study in trying to solve ambiguity. At first glance, the claims recite a definite, (purportedly) commercially available composition or line of compositions. We have, however, nothing but attorney argument to support a finding that the recited composition has a definite meaning to those in the art or even to the recited supplier. One need only consider a ubiquitous, commercially available composition like COCA-COLA® to see that even a well-known product defined by a trademark can have noticeably different compositions at different times and different places. Is a reference to a specific item ambiguous if the item had a precise meaning as of the filing date, but is subject to change?

This case might have been a good candidate for treatment under 37 C.F.R. § 41.50(c), whereby we could bind the examiner to allow the claims (on this record) if the applicants make a required amendment. The applicants could have presented sufficient evidence to show that either the disclosure already defines the contested terms adequately or that it could be amended to state explicitly what those terms meant at the time of filing without adding new matter. Invoking the rule is, however, discretionary. Given the uncertainty regarding the meaning of the dielectric limitation on the current record, it is not immediately clear what amendment the panel could require.

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